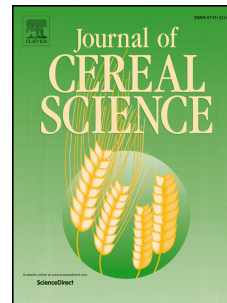


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Effects of heat processing methods on protein subfractions and protein degradation kinetics in dairy cattle in relation to protein molecular structure of barley grain using advanced molecular spectroscopy

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1 **Interpretive Summary:** “Alterations in protein molecular structures of barley grain upon
2 different heat processing revealed by Attenuated Total Reflectance Fourier Transform Infrared
3 Molecular Spectroscopy in association with protein subfractions and protein degradation kinetics
4 in dairy cows”. Autoclave heating decreases protein degradability in the rumen and improves
5 protein intestinal digestion, when compared to raw, dry heated and microwave-heated grains.
6 The changes in protein inherent molecular structures induced by heat processing can be
7 associated with the changes the protein nutrient supply and availability. Molecular spectral
8 features have great potential to be used as predictors for nutrient availability of grains in dairy
9 cows.

10 **Effects of heat processing methods on protein subfractions and**
11 **protein degradation kinetics in dairy cattle in relation to protein**
12 **molecular structure of barley grain using advanced molecular**
13 **spectroscopy**

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